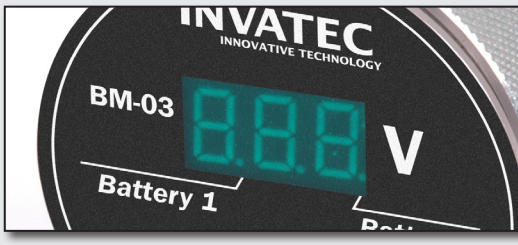
INVATEC

INNOVATIVE TECHNOLOGY

Product Catalogue

2013



www.invatec.dk

INVATEC®
INNOVATIVE TECHNOLOGY

From INVATEC's headquarters situated in Aarhus - Denmark, INVATEC engineers a broad selection of electronic equipment mainly for the European market.

INVATEC products are manufactured at modern production facilities in Europe and Asia, establishing an exceptionally high level of quality and reliability for all its products.

Keeping a close eye on the market's demands for "value for money" products, INVATEC will always focus on bringing practical and useful input to the market. With levels of high quality at an affordable price INVATEC provides the perfect solution.

Our vision...

"always deliver products at a very high technological standard at a reasonable price"

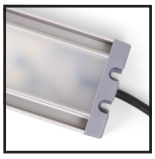
INVATEC products are under constant development, using only cutting-edge technology, to meet the demands of the fast changing European market. To secure these high standards, there is a constant evaluation of the quality in both circuitry and assembly, during all stages in the line of production.

DOWNLOAD PDF CATALOUGE | LINK TO WEBPAGE | LINK TO PRODUCT | QR CODES DOWNLOAD PDF

Table of Contents

LCD LED-TV 4 - 5

18,5” MPEG4 HD+ tv with DVD
22” MPEG4 HD+ tv



LED-lamps 6 - 7

Brightline Series
Angled LED Series
PIR Sensor

Pure Sine Wave Inverters 8 - 9

PS Series

Modified Sine Wave Inverters 10 - 11

PM Series

Chargers/Power Supply 12 - 13

PC Series

Smart Charger 14

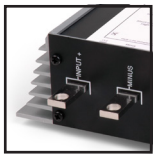
SC Series
for hobby use

Waterproof Charger 15

MPC Series
for professional use

DC-DC Converter 16 - 17

DC Series
DCI Series, Galvanic isolated



STEP Converter and Charger 18

STEP 12 - 24 Series
STEP 12 - 28 Series

Battery Accessories 19

Battery separator

Battery Accessories 20

Battery monitor

Battery Accessories 21

Battery, generator and start tester

AIR Compressor 22

12 volt with or without air tank.

Jumpstarter 23

JS Series

INVATEC TV

High Definition LCD LED-TV with built-in DVB-T MPEG4 digital tuner

INVATEC TV appears in a black design with speakers below the screen. It has a built-in DVB-T MPEG4 Digital tuner for viewing crystal clear digital broadcast in High Definition. There is a HDMI and SCART connection for inputs like external DVD-player, Video-player, PlayStation® etc. It also has a VGA connection for your PC.

Card Interface (CI) and approved for Pay-tv.

The TV has HDMI, SCART, USB and VGA input for your PC. VESA bracket for wall mount.

PVR instant recording via USB device.

The tv can be operated using the buttons on the monitor or with the enclosed remote control. On M19 the DVD-player is located on the right hand side.

OSD (On Screen Display) in English, German, Spanish, Portuguese, Swedish and Danish. Subtitles in all EU languages. Teletext.

Power supply is 12 volt DC directly or via 230 volt AC adapter.

Enclosed is; 12 volt adapter, 230 volt AC adapter, Ir-remote, Super flat wall mount, Manual in English, German, Danish and Swedish.

LINK TO PRODUCT

FEATURES

- 12 volt DC or 230 volt AC adapter
- PVR recording via USB
- CI - Card Interface
- HDMI, SCART & Composite
- VGA connection for PC

SPECIFICATIONS

		M19-DVD6	M22-TV4
DVB-T Digital Tuner		Yes DVB-T2	Yes DVB-T, DVB-C
DVD-player		Yes (right side)	No
Receiving system		B/G, D/K, I, L/L', M (opt.)	
Color system		PAL/NTSC/SECAM (opt.)	
Display	LCD Panel	18,5" (470 mm) diagonal	22" (558 mm) diagonal
	Format	16:9	
	Resolution	1366 × 768 pixels	1920 × 1080 pixels
	Response time	5 ms	5 ms
	Colors	16,7 mill	
External antenna		75 ohm Coaxial	
External In/Out		PC (VGA), SCART, HDMI, AV & YPbPr input	HDMI, SCART, Composite, Y/PB/PR, VGA, RF ANT., Headphone, CI, USB
Speaker		2 x 4 Ω	2 × 4 Ω
Audio Output		2 × 3 watt	2 × 5 watt
Power consumption		19 watt	28 watt
Standby consumption		0,25 watt	0,25 watt
Power supply. direct or via adapter		12 volt DC or 110 – 230 volt AC, 50/60 Hz	
Dimension with stand (extra accessory)		458 × 302 × 179 mm	534 × 341 × 160 mm
Dimension without stand		458 × 342 × 54 mm	534 × 381 × 42 mm
Net Weight		2,8 kg (4,5) kg	2,9 (4,9) Kg

M19-DVD6

- 18,5”, 16:9, HD-TV
- DVB-T2 Digital Tuner
- MPEG4
- DVD-player

HDMI
HD TV 720p
DVB T2
MPEG 4
PVR READY
DVD
BOXER
230 volt | 12 volt
AC | DC

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M22-TV4

- 22”, 16:9, HD-TV
- DVB-T Digital Tuner
- MPEG4

HDMI
HD TV 1080p
DVB T
DVB C
MPEG 4
PVR READY
BOXER
230 volt | 12 volt
AC | DC

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Brightline LED-fixtures

More Light - Less Power

Brightline is a new line of LED-fixtures produced in Europe especially made for use

The series consist of several models to cover the many different needs in the market. LED-fixture are conducted in different sizes with or without PIR motion sensor. Later models will have the option of intelligent dimming.

The advantages of LED lighting are:

- Smaller fixtures
- Longevity
- Intelligent lighting
- Multi Voltage
- More light at less energy
- Less heat generation

The devices can be connected to the DC voltage from 10 to 30 volts DC and the cord is 2 meters long.

LINK TO PRODUCT

The LED-fixture is made of anodized aluminum with end caps of hard gray plastic with sliding holes for easy mounting. The cable is 2 meters long and the LEDs are molded in polycarbonate.

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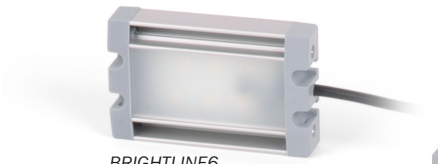
SPECIFICATIONS

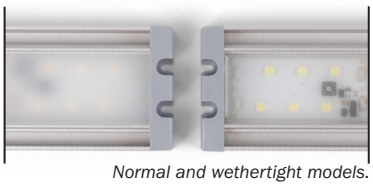
Model	Power	WT	PIR	Length	Height
BRIGHTLINE4PIR	4 W		×	104 mm	31 mm
BRIGHTLINE6	6 W				21 mm
BRIGHTLINE6W		×			
BRIGHTLINE10PIR	10 W		×	184 mm	31 mm
BRIGHTLINE12	12 W				21 mm
BRIGHTLING12W		×			
BRIGHTLINE16PIR	16 W		×	504 mm	31 mm
BRIGHTLINE30	30 W			604 mm	21 mm
BRIGHTLINE30M		×		720 mm	

NOTES
Common with is 65 mm
PIR - Passive Infrared sensor
WT - Wether tight incapsulated in polyurethane



BRIGHTLINE6

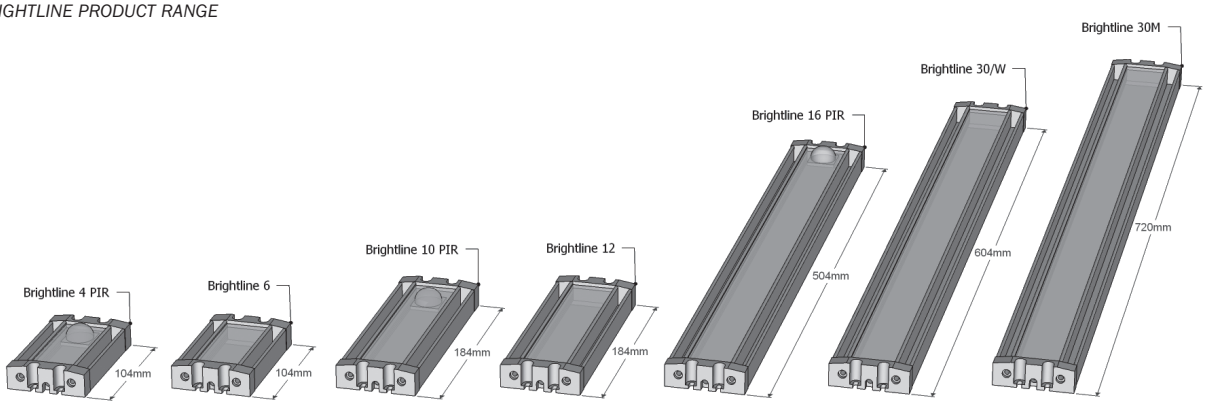
BRIGHTLINE12



Normal and wethertight models.

BRIGHTLINE30

BRIGHTLINE PRODUCT RANGE



Brightline LED-rails

For interior lighting of boxes and compartments

These LED-rails are intended to be mounted on the inside of the box or compartment to give a good distribution of light.

These LEDs are bright cool-white, and the rails are weather proof. In the middle of the rail there is a groove that helps you to drill holes for attachment.

Definition of the direction of the profiles.

LINK TO PRODUCT

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The rails are available in two lengths, 102 cm and 52 cm, and can not be shortened. Similarly, there are different part numbers for left or right and voltage 12 or 24 volts.

Approximately 90 lumen/1 watt

Double insulated cable. Length 160 cm.

SPECIFICATIONS

Model number	BLA052-xx-x	BLA102-xx-x
Consumption	5 watt	10 watt
Weight	130 g	250 g
Dimensions (l×b×h)	52 × 2 × 1 cm	102 × 2 × 1 cm

MODEL NUMBER

Length	Voltage	Left	Right
52 cm	12 volt	**BLA052-12-L**	**BLA052-12-R**
	24 volt	**BLA052-24-L**	**BLA052-24-R**
102 cm	12 volt	**BLA102-12-L**	**BLA102-12-R**
	24 volt	**BLA102-24-L**	**BLA102-24-R**

PIR motion sensor

For automatic interior lighting

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LINK TO PRODUCT

Motion sensor for mounting on wall or ceiling.

The sensor detects movement and can turn on lights or similar when movement is detected. Keeps the light on for 30 seconds after last movement.

The angle of motion detection is 60° H/60° V.

Connector with screw terminals. Multivoltage; 12/24 volts in. Must be protected with fuse.

For indoor use only.

SPECIFICATIONS

	LED-PIR
Supply Voltage	12/24 Volt (auto detect)
Max current	10 Amperes
Time delay	30 seconds
Weight	120 g
Dimension (l×w×h)	77 × 48 × 30 mm

Pure Sine Wave Inverter

Switch-mode inverters 300-3000 watt

High-frequency Inverters (HF) ∿

High Frequency Pure Sine Wave Inverters are purely electronic without the extra weight of a toroidal transformer. They convert DC 12 or 24 volt to AC 230 volt with a pure sine wave. The production cost is lower and the weight is only one fourth of a LF Inverter. With a HF Inverter you don't get the 'noise' that modified inverters give.

Low-frequency Inverters (LF) ∿

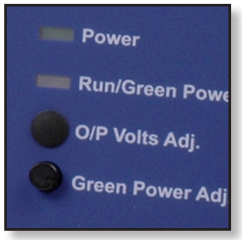
This is a top class product. A solid power plant that will power almost anything, at a low cost. With this series of low frequency inverters, INVATEC has yet again broken the rule that toroidal transformers are expensive. By combining the latest switch mode techniques with old-fashioned toroidal transformers, INVATEC has achieved a low cost, high quality product. With the use of bigger toroidal transformers you get a robust inverter that handles both large heavy loads and also sensitive equipment.

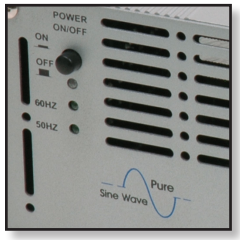
FEATURES

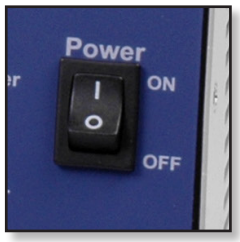
- Inverts 12 V or 24 V DC into 230V AC
- All inverters have SCHUKO output socket
- Switch-mode construction
- Pure sine wave output ∿
- Under voltage alarm
- Variable sizes
- Overload protected
- Compact design
- Short-circuit protected
- High efficiency
- AVR for precise 230 volt AC

SPECIFICATIONS

	High Frequency			Low Frequency		
Model No.	**PS-300**	**PS-600**	**PS-1200H**	**PS-1200**	**PS-1800**	**PS-3000**
Continuous Output Power	300 W	600 W	1200 W	1200 W	1800 W	3000 W
AC Output Voltage	230V					
AC Output Regulation	–5 % ~ +5 %		–1,5 % ~ +1,0 %			
Output frequency	50 Hz ± 0,5%					
Output Wave Form	Pure Sine Wave		Pure Sine Wave < 2 % THD			
Efficiency	>80%					
No Load Power consumption	<5 watt			<4 watt (in GREEN POWER status)		
Input Voltage Range	PS 12 volts models: 10~16 V DC PS 24 volts models: 20~32 V DC					
Green power Recovery Time	No			1 second		
LED status Indication	RUN, trip., 1 LED All in one			Power ON/OFF, RUN/GREEN POWER, High/Low Battery, Shutdown, Over temperature, Shutdown and Over Load Shutdown		
Protection Features	Input High/Low voltage, Over Temp. and Reverse Input Polarity (Fuse). Overload, Short Circuit Shutdown, Restarts, Soft Start					
Remote Control (option)	No			ON/OFF switching		
Operating Temperature Rng.	+0° ~ +50° C (+32° ~ +122° F)					
Storage Temperature Range	–30° ~ +70° C (–22° ~ +58° F)					
Dimensions (l×w×h) mm	265 × 129 × 82	293 × 179 × 82	437 × 179 × 82	500 × 280 × 113	412 × 280 × 182	472 × 240 × 317 (12 V) 395 × 240 × 317 (24 V)
Gross Weight (12 V/24 V)	1.9 kg	2.7 kg	4.6 kg	11.2/11.1 kg	16.5/16.1 kg	35.0/26.7 kg







High-frequency Inverters (HF)

PS-300

PS-600

PS-1200H

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Low-frequency Inverters (LF)

PS-1200

PS-1800

PS-3000

PS-REMOTE for LF inverters

Modified Sine Wave Inverter

Switch-mode inverters 150-2500 watt

These modified inverters allow you to run 230 volt AC equipment nearly anywhere at any time, you only need a DC battery or supply from your vehicle, boat or off grid battery bank.

INVATEC inverters use switch-mode technology, like most inverters today, where the battery DC voltage is converted at high frequency, regulated and rebuild as 50 Hz AC main voltage. This saves a large and heavy transformer and makes the product compact, low-weight and affordable.

INVATEC delivers variable sizes of inverters. Starting at the smallest 150 watt unit, useful for portable computers, small chargers etc., through to the heavy 2.500 watt unit.

LINK TO PRODUCT

FEATURES

- Inverts 12 V or 24 V DC into 230V AC
- Switch-mode construction
- Modified sine wave ⊓⊔
- Under voltage alarm
- Overload protected
- Switch-mode construction
- High efficiency
- All inverters have SCHUKO output socket*
- All inverters includes English manual and DC cables

COMMON DATA

- Efficiency better than 85 %
- Temperature protection 55° C +/- 5° C
- Output 230 volt 50 Hz +/- 5 % modified
- AVR circuit for exact 230 volt AC
- Auto shut-off at low voltage

**Except PM-150-12U*

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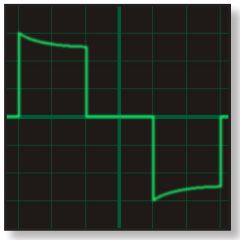
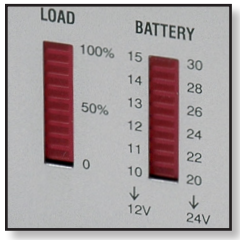
SPECIFICATIONS

Model No.	PM-150-12U	PM-150	PM-350	PM-600	PM-1200	PM-1800	PM-2500
Continuous Output Power	150 watt	150 Watt	350 Watt	600 Watt	1200 Watt	1700 Watt	2500 Watt
DC Input Voltage	12 V DC (10~16 V DC)	12 Volt (10 ~ 16 V DC) 24 Volt (20 ~ 32 V DC)					
AC Output Regulation	230 VAC ±8 % 50 Hz ±2 %	230 Volt AC ±8% 50Hz ±1%					
Efficiency	>88 %	85 %	~ 90 %				>85 %
No Load Power Consumption	<0,1 A	<0,25 A	<0,4 A				<0,5 A
Under Voltage Alarm	No	Yes					
Under Voltage Shutdown	Yes						
Over voltage protection	Yes						
Over temperature Protection	Yes	55° C ±5° C					60° C ±5° C
DC / AC galvanic Isolation	Yes						
Protection Feature Output	Yes						
Protection range	150 W	150 W ±5 W	360 W ±10 W	630 W ±20 W	1200 W ±100 W	1700 W ±100 W	2500 W ±100 W
Input Protection	Fuse	Yes					
Temperature Controlled Fan	No	Yes					
Remote Control (option)	No				ON/OFF switching		
Dimensions (l×w×h) mm	∅67×150	132×100×64	110×153×64	241×176×82	340×199×82	402×199×82	427×177×152
Gross-/ (Net-) weight	0.4 (0.6) Kg	0.6 (0.7) Kg	0.6 (0.9) Kg	2.0 (1.6) Kg	3.3 (2.6) Kg	4.0 (3.1) Kg	7.2 (5.9) Kg





PM-150

PM-350

PM-600

PM-1200

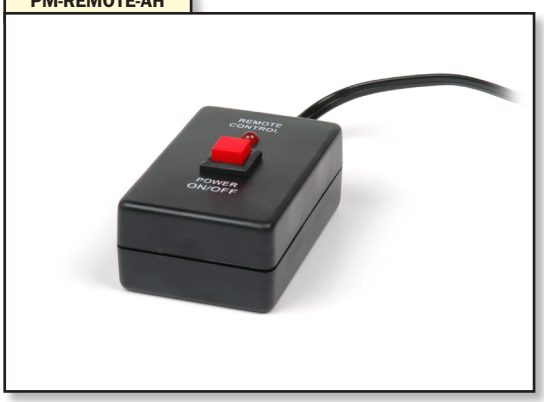
PM-1800

PM-2500

PM-150-12U

With built-in 5V USB port and DK-socket

PM-REMOTE-AH



Battery Charger & Power Supply

12 or 24 volt, 2 - 50 ampere

Chargers are constructed with the latest switch-mode design and can also function as a power supply unit. A thermostat/current controlled cooling fan allows a full capacity charge at as low as 100 VAC (some versions as low as 200 VAC) in conditions up to 50° C.

INVATEC battery chargers perform an efficient three-stage charge cycle (UioU), and are able to charge batteries from a totally discharged state (0 volt) if necessary.

The INVATEC two-stage charging technology provides the most optimal charging of batteries, ever. The first charge stage is done at a higher voltage 14.2 or 28.4 volt. The second phase then delivers 13.7 or 27.4 volt. Voltage values are internally adjusted. LED indicators on the front panel identify the charging stage.

All chargers are shipped with main SCHUKO leads, battery cables and battery terminal grips.

FEATURES

- Charges 12 or 24 volt batteries from 230 volt AC power supply
- Both temporary and fixed installations
- Usable as a power supply unit
- Two-stage charge cycle (UI)
- Starts charging on completely flat battery
- High efficiency
- Overload protected
- Switch-mode construction
- Short-circuit protected
- Current controlled cooling fan (PC-0212 has no cooling fan)
- Optimal, effective charging

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SPECIFICATIONS

MODEL	Input voltage	Battery voltage	Charge current	Bulk/Float change point	Bulk voltage	Float voltage	Dimensions (w × l × h) mm	Net. weight
PC-0212	100-255 V AC	12 V DC	2 amp	0.5 amp	14.2 V DC	13.7 V DC	120 × 62 × 38	0.5 Kg
PC-0512			5 amp	2 amp			180 × 90 × 50	0.9 Kg
PC-1012			10 amp	2 amp				
PC-1212	200-255 V AC		12 amp	2.5 amp			230 × 210 × 90	3.0 Kg
PC-2512			25 amp	5 amp			270 × 210 × 90	
PC-5012			50 amp	10 amp			395 × 210 × 90	4.5 Kg
PC-0524	100-255 V AC	24 V DC	5 amp	1 amp	28.2 V DC	27.2 V DC	180 × 90 × 50	0.9 Kg
PC-1024	200-255 V AC		10 amp	2 amp			270 × 210 × 90	2.5 Kg
PC-2524			25 amp	5 amp			395 × 210 × 90	4.5 Kg

INVATEC INNOVATIVE TECHNOLOGY

PC-0212

PC-0512 **PC-1012** **PC-0524**

PC-1212

PC-2512 **PC-1024**

PC-5012 **PC-2524**

Smart Chargers

Charge, Maintain, Recover or Power supply. For hobby use.

The INVATEC SC-series charger is a fully automatic switchmode battery charger and battery maintainer, designed for charging a variety of Lead-Acid rechargeable batteries, widely used in busses, trucks and boats.

The batteries may be of various types i.e. WET/Flooded (Liquid Electrolyte), GEL (Gelatin type Electrolyte, absorbed into the plates), AGM (Absorbed Glass Mat), MF , VRLA (Valve Regulated Lead Acid) batteries. Using state-of-the-art technology, the charger enables the recharging of the batteries to almost 100% of their original capacity.

It recovers slightly sulfated batteries. It diagnose and recover a drained battery. It provides trickle charge and maintenance charging which increases battery life and gives superb performance. It is also ideal for maintaining batteries of non-regular used vehicles of all types. It has memory function for the last used mode. It features low back current drain and low ripple.

LINK TO PRODUCT

The charger returns to last selected mode automatically when power is switched on.
For repetitive charging process, this is a very useful feature.

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SPECIFICATIONS

		SC-4	SC-7	
		12 volt	12 volt	24 volt
Input Voltage		170 – 260 VAC, 50/60Hz	170 – 260 VAC, 50/60Hz	
Output voltage		12 V	12 V & 24 V (Auto Select)	
Efficiency		>75%	>75%	
Modes	Normal Temperature	13,0 – 14,7 V ±0,25 V	13 - 14,7 V ±0,25 V	26 - 29,4 V ±0,25 V
	Maintenance Charging	13.6 V ±0.25 V	13.6 V ±0.25 V	29.4 V ±0.25 V
	Recovery	–	16.0 V	32.0 V
	Power Supply	–	13,6 V	–
Back Current Drain		<1mA	<5mA (<0.7Ah/month)	
Ripple		Max. 150mV	Max. 150mV, 0.3A	
Type of Batteries		12 volt Lead-acid batteries (WET, MF, AGM,GEL)	12 and 24 volt Lead-acid batteries (WET, MF, AGM and GEL)	
Battery Capacity		1.2 - 120Ah	14 - 230Ah	14 - 120Ah
AC/DC cord/length		1.8 (SCHUKO plug) / 80 cm		
Housing Protection		IP65 (In- and outdoor use)		
Ambient temperature		–20° to +50° C		
Net weight		0.68 Kg	0.94 Kg	
Dimension (L×H×W)		172 × 62 × 42 mm	210 × 91 × 51 mm	

Waterproof Chargers

For fixed installations in extreme environment

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These unique battery chargers, can be placed anywhere as it is completely enclosed. They are waterproof and vibration proof. They do not overcharge the batteries and can charge from as low as 0 volts (completely flat batteries).

Because of a unique temperature / current control circuit, these chargers can charge even very large batteries in hot environments. These chargers are designed with the latest switch mode technology and has a two-stage charging pattern and are equipped with two LED indicators.

Supplied with 1.5 m cable with SCHUKO plug.

These chargers are good for places where electronics can not normally be placed.
For example in the engine compartment of vehicles and boats, in open boats or other damp environments.

FEATURES

- Charges 12 or 24 volt batteries from 230 volt power supply
- Both temporary and fixed installations
- Overload protected
- Waterproof
- Never overcharges the battery
- Two-stage charge cycle (IU)
- Usable as a power supply unit
- Optimal, effective charging
- Short-circuit protected
- High efficiency

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LINK TO PRODUCT

SPECIFICATIONS

Model no:	Input voltage (volt AC)	Battery voltage (volt DC)	Minimum battery capasity	Bulk Charge		Float Charge		IP Class.	Dimensions in mm (W x H x D)	Weight
				Volt	Amps	Volt	Amps			
MPC126	100 – 255 volt AC 40-60 Hz	12 volt DC	> 6 Ah	14.4 V	6 A	13.8 V	0,2 A	IP 65	155 × 80 × 34	0,9 kg
MPC1215			> 12 Ah		15 A		0,8 A		193 × 99 × 47	1,7 kg
MPC243	100 – 255 volt AC 40-60 Hz	24 volt DC	> 6 Ah	28.8 V	3 A	27.6 V	0,2 A		155 × 80 × 34	0,9 kg
MPC2408			> 12 Ah		8 A		0,4 A		193 × 99 × 47	1,7 kg
MPC2432			> 20 Ah		32 A		3,5 A		245 × 157 × 47	3,9 kg

DC-DC Converters

Converts from 20 – 35 volt to 12 volt DC

INVATEC DC-DC converters are real switch-mode converters, that is, almost loss less conversion, compared with the very inexpensive voltage dividers, which devotes all power as heat, thereby also use much power.

INVATEC DC-DC converters are protected against overload and overheating.

All with 6.3 mm spade connector, except DC60 witch are ∅6 mm bolts.

FEATURES

- Easy mounting
- Efficiency is better than 85%.
- Max. 2 converters in parallel
- Humidity, max. 95% non condensing
- Overload protection up to short-circuit
- Overheating output voltage reduction
- Over voltage Transient protection by Varistor
- Casework, Anodized aluminium
- Warranty is 2 years

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SPECIFICATIONS

Model	Input	Output	Current	Efficiency at full load	Off-load current	Operating temperature	Ambient temp. (20°) increase after minutes at full load	Cooling	Dimensions HxWxD (mm)	Weight
DC05	20 - 35V	13.2 V	5.5 A	90%	<5 mA	–20° C to +40° C	30° C	Convection	49 × 88 × 68	0.17 Kg
DC08			8 A						49 × 98 × 88	0.25 Kg
DC12			12 A							0.26 Kg
DC20		13.8 V	20 A		<25 mA				49 × 88 × 126	0.48 Kg
DC30			30 A					Fan	49 × 88 × 151	0.60 Kg
DC60			60 A		<50 mA			2 × Fan	151 × 88 × 98	1.20 Kg

DC-DC Converters - Isolated

Converts from 9 - 120 volt DC to 12 or 24 volt DC, 100, 200 360 watt

INVATEC
INNOVATIVE TECHNOLOGY

With an input voltage range spanning from 9 to 120 volts, INVATEC multi-voltage isolated converters, solve many demanding tasks.

The converters has a fixed output voltage of 12 or 24 volts and 3 effect sizes. It is always possible to find a ”special converter” from standard inventory that can solve most of the supply demands.

DCI multipoint series are constructed using the latest technologies and components within the switch mode technology. This results in a product that is virtually loss less at power conversion, thus providing a minimal heat generation. Less than 10 % of the converted power turns into heat.

Type numbers are systematically built up. First is maximum effect, next input voltage (A to D) and finally the output voltage.
200 and 360 watt models have built-in thermostatically controlled fan operation. 100 watt version uses convection.

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SPECIFICATIONS

100 watt	In/Out	Input voltage	Output		Isolated	Standby	Cooling	Dimension in mm
DCI100A12	12/12	9 – 18	12.5 V	8 amp.	Yes	20 mA	Convection	150 × 88 × 50
DCI100B12	24/12	20 – 35						
DCI100C12	48/12	30 – 60						
DCI100D12	96/12	60 – 120						
DCI100A24	12/24	9 – 18	24 V	4 amp.				
DCI100B24	24/24	20 – 35						
DCI100C24	48/24	30 – 60						
DCI100D24	96/24	60 – 120						

200 watt	In/Out	Input voltage	Output		Isolated	Standby	Cooling	Dimension in mm
DCI200A12	12/12	9 – 18	12.5 V	16 amp.	Yes	30 mA	Fan	176 × 88 × 50
DCI200B12	24/12	20 – 35						
DCI200C12	48/12	30 – 60						
DCI200D12	96/12	60 – 120						
DCI200A24	12/24	9 – 18	24 V	8 amp.				
DCI200B24	24/24	20 – 35						
DCI200C24	48/24	30 – 60						
DCI200D24	96/24	60 – 120						

360 watt	In/Out	Input voltage	Output		Isolated	Standby	Cooling	Dimension in mm
DCI360A12	12/12	9 – 18	12.5 V	30 amp.	Yes	50 mA	Fan	190 × 132 × 82
DCI360B12	24/12	20 – 35						
DCI360C12	48/12	30 – 60						
DCI360D12	96/12	60 – 120						
DCI360A24	12/24	9 – 18	24 V	15 amp.				
DCI360B24	24/24	20 – 35						
DCI360C24	48/24	30 – 60						
DCI360D24	96/24	60 – 120						

STEP Charger and Converter

Converts from 12 to 24 or 28 volt DC

DC-DC Charger

STEP12-28/30 is a special developed DC-DC charger for 12 volt cars/boats, with 24 volt aux battery bank.

The charger has a build-in battery separator and charges with max. 30 amp at 28 volt. Simply connect the input side to the 12 volt battery and output to the 24 volt battery bank. INVATEC STEP charger STEP12-28/30 will check the voltage at the 12 volt battery and start charging. Every 5 minutes it will stop charging and measure the 12 volt battery status.

STEP 12-28/30 have ∅6 mm holes for 6 mm bolts.

DC-DC Converter

INVATEC STEP converters are real switch-mode converters. They provide nearly loss less conversion better than 93%.

STEP 12-24/7-10 have 6.3 mm spade connector, and STEP 12-24/30 have ∅6 mm for 6 mm bolts.

See other DC-DC converters on page 16 - 17.

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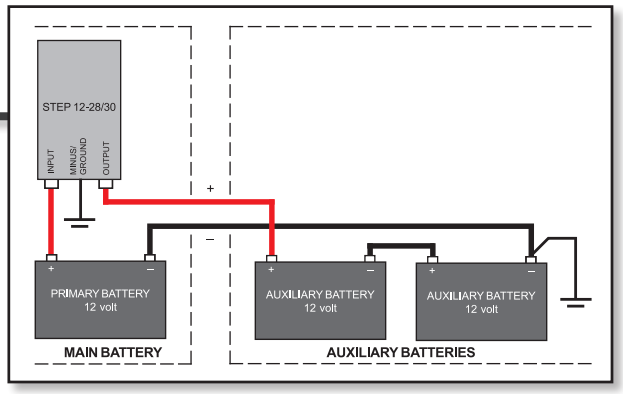


STEP 12-24/30
STEP 12-28/30
CHARGER

STEP 12-24/10

STEP 12-24/7

SPECIFICATIONS

Model	Input	Ouput	Output Current	Efficiency at full load	Off-load current	Cooling	Dimensions L × W × H in mm	Weight
STEP 12-24/7	9 - 20 V	24.0 V	7 A	> 93 %	< 6 mA	Convection	99 × 88 × 49	0.3 Kg
STEP 12-24/10			10 A				126 × 88 × 49	0.4 Kg
STEP 12-24/30			30 A		< 80 mA		160 × 330 × 62	2.4 Kg
STEP 12-28/30	9 - 20 V	28.0 V	30 A	> 93 %	< 80 mA	Convection	160 × 330 × 62	2.4 Kg
STEP 6-12	5 -10 V	12.0 V	7 A	-	10 mA	Convection	99 × 88 × 49	0.3 Kg

Battery Separator

Separates two battery circuits for charging

INVATEC
INNOVATIVE TECHNOLOGY

INVATEC battery separators BS140 and BS500 are microprocessor-controlled relays for charging more than one battery. Used for optimum charging of the starter battery and auxiliary battery, with the starter battery as first priority.

When the starter battery voltage reaches 13.2 volts for at least 7 seconds the relay switches for parallel charging of both batteries.

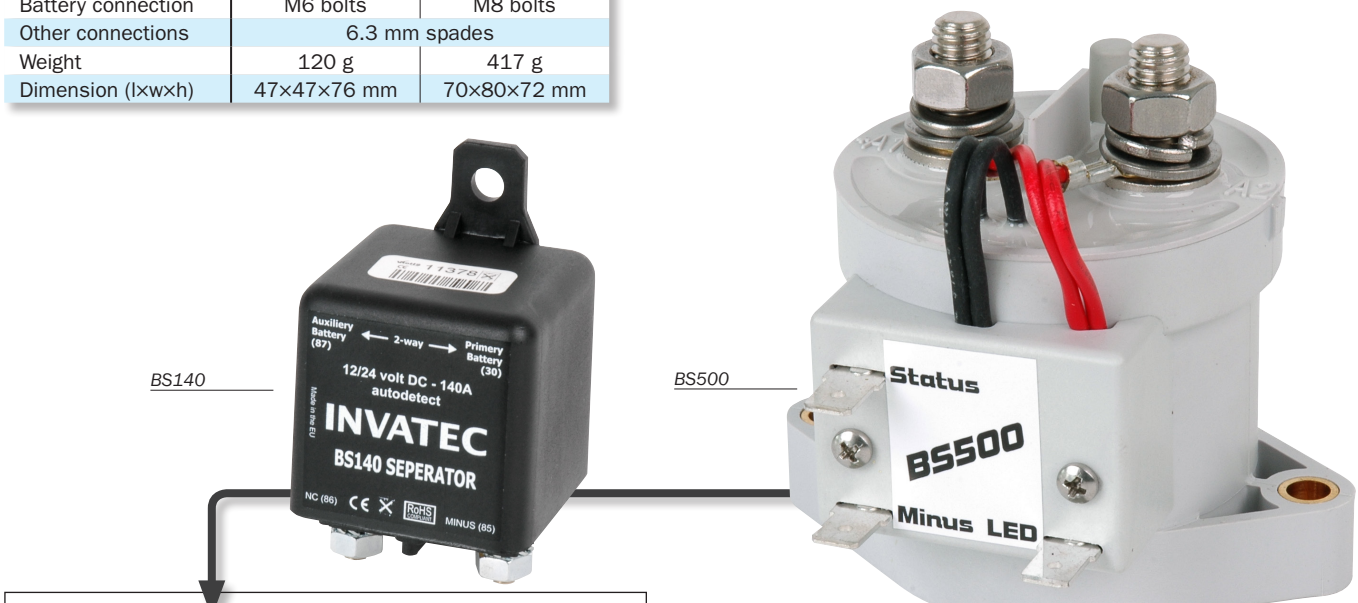
If the voltage falls below 12.8 volts for at least 60 seconds, the relay switches off, to charge the starter battery. In this way the starter battery is always fully charged.

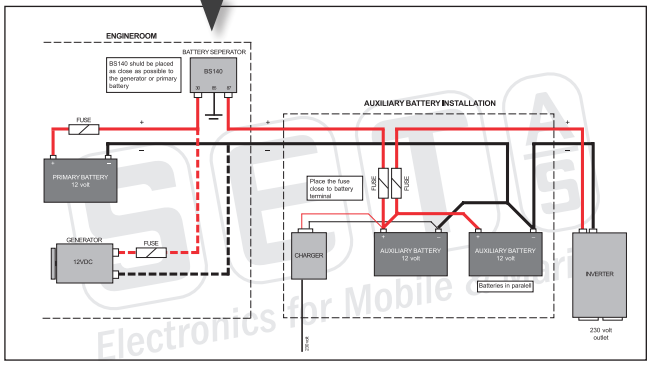
FEATURES

- Use on RV, boats and trucks, and where an additional battery is needed.
- Waiting for the primary battery being charged has reached 13.2 V (26.4 V) before coupling to charge the auxiliary battery
- The system is separated again at 12.8 V (25.6 V)
- The microprocessor controls the correct switching time
- Protects auxiliary battery against overcharge
- Over voltage disconnect at 16 V (32 V)
- Forced activation for emergency start (BS500 only).

SPECIFICATIONS

	BS140	BS500
Supply Voltage	12/24 Volt auto detect	
Max current	140 Amperes	500 Amperes
Closes/opens at	13.2 V/12.8 V (26.4V/25.6V)	
Battery connection	M6 bolts	M8 bolts
Other connections	6.3 mm spades	
Weight	120 g	417 g
Dimension (l×w×h)	47×47×76 mm	70×80×72 mm





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Battery Monitor

Digital voltmeter with alarm

This battery watch measures the voltage of your battery bank or banks on a 3-digit display with one decimal precision.

It can be connected to both 12 and 24 volt systems and measure the voltage of one or two battery banks and has several options for monitoring different setups of battery banks.

The monitor has a built-in buzzer for over/ under voltage alarm both of which can be programmed and it has alarm output for external buzzer.

BM-03

FEATURES

- Monitor multiple batteries
- Programmable
- Very low power consumption and low stand by consumption
- Alarm Output
- Built-in buzzer

SPECIFICATIONS

		BM-03	
Battery		12 or 24 volt	
Display	**ON**	Cunsumption	20 mA
	OFF		8 mA
	Std.by.		< 0,1 mA
Weight		126 g	
Size (b×d×h)		∅60 (∅55) × 20 mm	

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LED Battery Monitor

Easy battery monitoring.

BM-01

BM-01 is a small battery monitor with easy reading of the battery condition. For both 12 or 24 volt systems.

The monitor has tree LED's to indicate (in nine steps) the voltage of the connected battery. Starting with steady green to indicate a fully charged battery, then as the voltage drops change to green/yellow, yellow, yellow/red and finally red to indicate very low voltage.

The monitor has a build in buzzer for over- and under voltage alarm witch can be programmed.

Using two 6.3 mm spade connectors.

SPECIFICATIONS

	BM-01
Battery	12 or 24 volt
Weight	76 g
Size (b×d×h)	65 × 65 × 25 mm

Electronic Battery Tester

Test batteries, alternators and starters

INVATEC
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For testing batteries, alternators and starters, professionally without disconnecting the battery. Easy menu driven operation.

Just connect the two clamps and follow the instructions on the backlit LCD-display. Print the result with a unique test code on the integrated printer.

Easy step-by-step test without complicated wiring and hard to understand results. Test the system with or without load, to check the alternators ability to supply enough amps.

The tester will test several systems; battery check and load test, starter draw and alternator test, alternator diode ripple test and finish with a recommendation of what to do with the battery and alternator.

The battery tester is enclosed with an extra rubber cover and it all comes in a plastic hard case. The set includes; Plastic hard case, battery tester, two AA-batteries, one roll of printer paper and a user-manual in english.

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BT777

SPECIFICATIONS

	BT777
Battery	6 and 12 volt. 7 – 230 Ah
Alternator/Starter	12 and 24 volt
Operating range	40 – 2.000 CCA (SAE)
Battery standards	SAE, DIN, IEC, EN, JIS
Min. battery voltage	1,5 volt
Operating temp.	0° – 50° C
Wirelength	180 cm
Weight	420 g
Size (b×d×h)	251 × 130 × 64 mm

Air Compressor

for Service Vehicles, 4×4, Tire Inflating, Air Tools etc.

INVATEC AIR-12V8L

A compressor with many possibilities. Can be used with all kinds of air-pressure tools and for inflating tiers etc. Maximum working pressure is 125 psi (8.6 bar).
With a size of only 40 × 40 × 18 cm it fits into all kind of service vehicles, trucks and busses. Pressure can be read on one of the two manometers and the working pressure can be adjusted. Air hose and tools can be connected via standard fitting.

INVATEC AIR-686

Heavy duty 12 volt compressor made in heavy gauge metal housing to withstand professional use. For road-side, off-road and off-grid work. For inflating tiers, cleaning and other air-pressure tasks. Performance up to 70 L/min and up to 150 psi (10.3 bar). Delivered incl. standard auto valve clamp and three different adapters for inflating and blowing. Inflates an off-road tyre in 3 minutes.

SPECIFICATIONS

	AIR-12V8L	AIR-686
Supply Voltage	12 volt DC	12 volt DC
Max. Ampere	20 A	30 A (13 volt)
Motor	¼ Hp	½ Hp
Motor RPM	5000 rpm	–
Air Tank	6 liter	No tank
Cut-In Pressure	100 psi (6.9 bar)	–
Cut-Out Pressure	125 psi (8.6 bar)	
Flow Rate	20 L/min @ 90 psi	70 L/min.
Max Working Pressure	125 psi (8.6 bar)	150 psi (10.3 bar)
Max Pressure	–	200 psi
Constant use	100% duty	40 minutes at 30 psi, 24°C
Power cord	2 meters, with in-line fuse and battery clamps	5 meters, with in-line fuse and battery clamps
Air Hose	No	1 meter
Working temp.	-20° ~ +60° C	-20° ~ +60° C
Weight	8.4 kg	4.4 kg
Dimension cm (w×h×d)	40 × 40 × 18	26 × 23 × 8

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AIR-12V8L

AIR-686

Jumpstarter

Professional 12/24 volt, Heavy Duty Jumpstarter

INVATEC Jumpstarter is simple in design and with its rugged construction it can withstand to be used in busy workshops.

The jumpstarter has a build-in voltmeter and reverse polarization indication with both light and sound. The two ”Heavy Duty” internal batteries has ample power to start even heavy trucks and engines.

The battery clamps are made of heavy duty insulating plastic with copper contact surfaces to ensure a good connection and fitted with long flexible heavy duty cables.

FEATURES

- High impact resistance one-piece housing
- Internal battery voltmeter
- Reverse connection detection and Alarm
- 12 volt cigar plug
- 12 volt charging plug
- 230 volt intelligent charger
- Can be charged from 12 volt car cigar socket

SPECIFICATIONS

		JS-1224
Output		12/24 V DC
Internal battery		12 volt 20 Ah
Number of batteries		2
Peak amps	**12 volt**	3400 A
	24 volt	1700 A
CCA	**12 volt**	900 A
	24 volt	450 A
Cable dim.		50 mm²
Cable length		1.6 meters
Weight		15,6 kg

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JS-1224

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S-E-T A/S continually work to improve the quality of our products. Therefore, product specifications, designs and packaging may change without notice.

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